

ARDROX® 9D1B & NQ1

NON-AQUEOUS LIQUID DEVELOPERS

1 Description

Ardrox 9D1B and NQ1 are liquid suspensions of an inert white powder in a quick drying solvent with low sulphur, halogen and alkali metal content.

Ardrox 9D1B and NQ1 are used as developers in penetrant testing of forged parts, welds, cast and drop forged parts. Ardrox 9D1B offers best results with both color contrast and fluorescent penetrants while the thicker layer provided by Ardrox NQ1 will make it especially suited for color contrast penetrant testing applications.

Ardrox 9D1B and NQ1 are available as bulk material and as aerosol. They are typically used in a penetrant system with Ardrox penetrants and removers.

Conformances

- ✓ ASME Boiler & Vessel Code Section V, Article 6
- ✓ EN ISO 3452-2 Form d & e
- ✓ Pratt & Whitney FPM PMC 4357 (approval, Ardrox 9D1B)
- ✓ Rolls Royce RRP 58003 (approval)
- ✓ SAE QPL-AMS 2644 (approval)
- ✓ SAFRAN IN-5000 (approval)

Ask your Chemetall representative for a complete list of approvals

2 Physical and chemical properties

Property	Ardrox 9D1B	Ardrox NQ1	Unit
Appearance	White solid particle in a clear liquid		-
Density	0.88	0.88	g/ml @ 20°C / 68°F
Flash point	-18 / 0	16 / 61	°C / °F

These are typical values only and do not constitute a specification.

3 Method of use

3.1 Pre-cleaning, penetrant & excess penetrant removal

Clean part with e.g. Ardrox 9PR5, 9PR50 or 9PR88 before applying the Ardrox penetrant. Apply cleaner to the part and wipe clean with cloth. Surface has to be free of grease, oil and dirt. Allow part to dry before applying penetrant.

Apply a thin even film of Ardrox penetrant to cover the test area and allow penetration as per the required time (typically 10-30 minutes).

Remove excess surface penetrant with clean cloths, pre-moistened with cleaner. Removal can also be affected by rinsing with water (over 5°C / 41°F). Do not flush surface with cleaner as sensitivity will be impaired. Repeat procedure until surface penetrant has been removed. Thoroughly dry the component surface before developer application.

3.2 Developing

Ardrox 9D1B and NQ1 are liquid suspensions of solid particles which settle-out on standing; therefore, aerosols and bulk containers must be shaken thoroughly before and during use.

Spray thin, even developer film over the area to be inspected (spraying distance 30 cm / 1 ft.). Surface temperature should be between -10 and 50°C (15-120°F). Ardrox 9D1B and NQ1 must be applied by a light even spray (immersion or brushing will cause a loss of process sensitivity). When Ardrox 9D1B is used as part of a fluorescent penetrant process, it should be applied by successive spraying until a translucent layer is achieved.

Allow 10 – 30 minutes developing time before evaluation.

3.3 Inspection

For color contrast processes, inspection should be carried out in diffused white light of at least 500 lux (approx. 46 ft.cdl) and in the case of a fluorescent penetrant processes under UVA of 365 nm peak wavelength, typical output of 1200 μwatts/cm² at 38 cm from the component.

Note: the procedure above is a recommendation only; where relevant, the process specifications of the approving authorities must be followed.

4 Effects on materials

When Ardrox 9D1B and NQ1 are used in the prescribed manner, no significant corrosion is likely to occur on commonly used constructional metals. Ardrox 9D1B and NQ1 may cause swelling of some rubbers and plastics, the product should be tested for compatibility before application.

5 Shelf life, storage, and disposal

Please refer to the corresponding Material Safety Data Sheets for details on shelf life, storage, and disposal.

6 Labor and environmental protection

Before operating the process described it is important that this complete document, together with any relevant Safety Data sheets, be read and understood.

All local and national regulations on the transport, storage, use and waste treatment of chemicals in concentrated or diluted form and as working solutions must be obeyed.

7 General information

Chemetall supplies a wide range of chemical products and associated equipment for cleaning, descaling, paint and carbon removal, metal working and protection and non-destructive testing. Sales Executives are available to advise on specific problems and applications.

The above details have been compiled to the best of our knowledge on the basis of tests and research work and with regard to the current state of our practical experience. This technical product information is non-binding. No liabilities or guarantees deriving from or in connection with this leaflet can be imputed to us. Statements relating to possible uses of the product do not constitute a guarantee that such uses are appropriate in a particular user's case or that such uses do not infringe the patents or proprietary rights of any third party. The reproduction of any or all of the information contained in this leaflet is expressly forbidden without Chemetall's prior written consent.

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